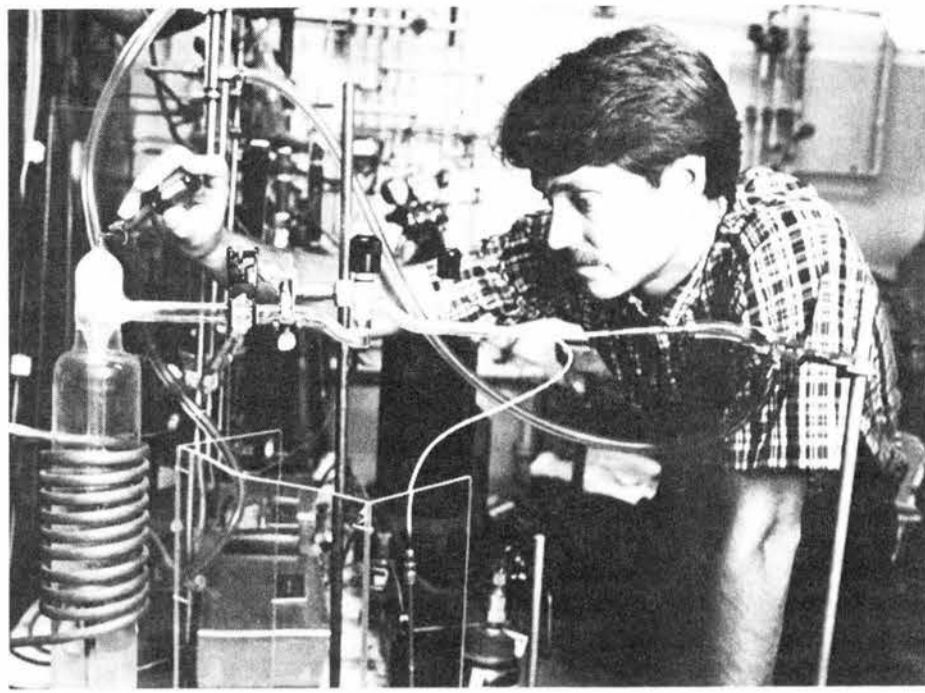


IT'S ELEMENTAL, my dear Watson. With a model of a boron carbide in hand and funding on the way, David Emin (DMTS, 1151) is ready to explore some of the unusual properties of borides. The model illustrates how boron atoms are sited at the corner of each icosahedron, with either none or one of 12 vertices occupied by carbon. At least one of the three (small, dark) atoms in the center can be carbon.



GOURMET COOKING is only one role in store for Terry Aselage (1842), who will be making borides here at Sandia on a BES grant from DOE. Terry also has co-edited, with David Emin (DMTS, 1151), the AIP-sponsored proceedings of last year's international conference on "Boron-Rich Solids" in Albuquerque. That conference was "strictly for boron people," says Terry. The next conference will be on a broader topic, "Novel Refractory Semiconductors."

### **Second "New Initiative" Funded**

## **Sandia Wins 3-Year BES Award for Boride Studies**

For the second year in a row, Sandia has won a Basic Energy Sciences (BES) grant from DOE for its "New Initiative" proposal.

Sandia's winning proposal is a joint project on "Very High Temperature Semiconducting Borides," submitted by the Solid State Sciences 1100 and Materials and Process Sciences 1800 directorates.

The second annual "New Initiatives" competition was open to all national laboratories and university contractors involved in BES-funded materials research. The two other winners (selected this year from 22 candidates) are Brookhaven and Los Alamos national laboratories. DOE cited the three labs for "high-quality, innovative, and multidisciplinary materials research."

Funding of Sandia's three-year, approximately \$2.5 million project will begin officially in FY88, with some preliminary funding expected late next year. Small subcontracts will go to UNM and Jet Propulsion Laboratories (JPL), Pasadena, Calif.

The work of the eleven investigators at Sandia will be headed by Fred Vook (1100), Bob Eagan (1840), and Jim Schirber (1150). "I am very pleased with the recognition we have received for our BES program," says Fred. "The award confirms the high quality of our research."

The emphasis of this particular program in borides, says Fred, "is to explore the nature of, and potential uses for, these interesting, very-high-temperature electronic materials. The program complements two related programs at Sandia: High Temperature Electronics, funded by BES Engineering, and Multi-Megawatt Space Nuclear Power, to be funded in FY87 by DOE Nuclear Energy.

"The borides program began with David Emin's [DMTS, 1151] work in the theory of the unusual electronic properties of these materials," adds Fred, "and he will have a key role in guiding the program."

### **Unconventional Solids**

Boron-rich solids have unconventional bondings and structures (see "Everything But Boring") that result in a great variety of novel electronic and thermal properties. Many of these properties lend themselves to making "innovative semiconductor devices for use at exceptionally high temperatures [up to 1500 degrees C]," says David.

Preliminary studies at Sandia indicate that conductive properties are just one such example of novel features. Measurements of electron spin resonance and magnetic susceptibility by Eugene Venturini (1131) and Larry Azevedo (1152), combined with electronic transport measurements by Charles Wood

at JPL, have been interpreted by David as evidence that high-temperature conduction occurs by the movement of bound *pairs* of electrons. Such bipolaron conductivity occurs very rarely in solids.

Also, a unique effect measured in boron-rich solids by George Samara (1130) relates to the "hopping" movement of these paired electrons: Electrical conductivity *decreases* with increasing pressure.

Then there are the distinctive thermoelectric properties. High-resolution (down to 3.5 Angstroms, equivalent to the size of a boron icosahedron) trans-

mission electron microscopy performed by Terry Aselage (1842) and Ian Mackinnon at UNM revealed a disordered structure in boron carbides. This microstructural disorder in the solid has been related to a thermoelectric effect: Gradations in temperature across boron carbide generate an abnormally large voltage.

Other structural investigations have been performed by Bruno Morosin (1131) using X-ray crystallography, by Hannibal Madden (1823) using auger

*(Continued on Page Four)*



# LAB NEWS

VOL. 38, NO. 16

SANDIA NATIONAL LABORATORIES

AUGUST 15, 1986

### **The Wrap-Up**

## **Final Tally on Bond Drive Shows 96.5 Percent Participating**



### **Sandia BONDfire**

A BONDfire — Sandia-style — swept through the Labs last spring with outstanding results. Final stats on the 1986 U.S. Savings Bond campaign show that 96.5 percent of Sandians now buy Bonds. This is a 4.9 percent increase in participation — "a remarkable increase, considering the fact that we went into the campaign with an already-impressive record of 91.6 percent participation," says Jim Ney (7230), Bond Committee Chairman. "We'll have to wait until the Treasury makes its report later this year to see if we moved up to the No. 1 spot for participation," he says.

Equally impressive, along with participation results, is an eight percent increase (from a year ago) in Savings Bond allotments, to a total annu-

al Labs investment of \$2,495,266. Put another way, that's an average of \$25.09 per month per employee. Forty-three percent of Sandians are at or above the bond-a-month level.

"What's truly amazing is that, without exception, every organization's participation record improved during the campaign," says Jim. "The VP and directorate reps — and their alternates — deserve a big round of applause. They worked long and hard on the campaign, and the results show it. My thanks to all who helped."

Ten organizations achieved 100 percent participation in the Bond drive. They are 100, 400, 1100, 1200, 1500, 3300, 3500, 5300, 7200, and 7500. Honorable mention goes to members of the "Almost 100 Club" (98 percent or better): 1800, 2100, 2500, 2800, and 5200.

"Our tremendous campaign results reflect outstanding support at all Sandia locations," reports Jim. "Just goes to show that Sandians — whether they're at Albuquerque, Livermore, or Tonopah — recognize a good deal when they see one!"



# Antojitos

Woodman, spare that tree!  
Touch not a single bough!  
In youth it sheltered me,  
And I'll protect it now.  
--George Pope Morris

That poem has been trying for more than 150 years to get into the pages of the LAB NEWS, and last week's Incident at the Oasis north of Bldg. 892 finally justified its inclusion. You see, the Plant Maintenance woodmen had the effrontery -- and the tools -- to remove five cottonwoods and an ash tree, and the phones lit up over here.

Well, save your righteous indignation. The chainsaw massacre really couldn't be avoided. Under those trees -- and doubtless what made them so healthy -- was a 40-year-old sewer line. It's got to be replaced (else, eventually, we'd be using the trees for a purpose for which they were never intended), and the line was buried so deeply that there was no way to save the front row of trees.

But be of good cheer. Mike Nielsen (7864) and Vern Easley (7830) promise that, once the new sewer line is installed, half a dozen Marshall ash trees will be planted, and they'll grow, and they'll be beautiful, and we'll forget yesterday's desecration, and mankind and nature will once more live in harmony at Sandia.

\* \* \*

Goodbye, Gerry -- As of today, Gerry Yonas is no longer a Sandian. Two years ago, he left his post as director of Pulsed Power Sciences 1200 and has been on leave of absence while serving as chief scientist in the Strategic Defense Initiative Organization in Washington.

His recent letter to President Welber praised Sandia's "professional approach, its virtually unlimited supply of talented and dedicated people, and rigorous attention to detail," which fit together "to make it a superior performer and a wonderful place to work." He also expressed his gratitude to the many people here who had allowed him to take on some high-risk ventures (in a phone conversation last week he mentioned President Sparks, former VP Al Clogston, former EVP Al Narath, and 6000 VP Ev Beckner as being especially supportive).

So why's he leaving? In that same phone conversation, he told me that he saw a chance to try an exciting and challenging career in the private sector (Titan Corporation in La Jolla, Calif.). The money looks good, and so does the location. Also, he said, "I've worked at Sandia [since 1972] and in the government," he noted. "It's time to change. I'd get restless otherwise."

He concluded his resignation letter by saying that he'll "always have that Thunderbird logo somewhere in my brain or heart no matter what I do."

Well, Gerry, speaking as a company journalist, I'll miss you. You've been good copy -- you often come up with just the colorful phrase that made my task delightful (even when I couldn't print it). And if you ever have to have a heart transplant, tell the docs to save the T-bird. ●BH

\* \* \*

No es desgracia ser pobre pero es muy inconveniente. (It's no disgrace to be poor, but it's very inconvenient.)

## Cleanup Campaign's Coming Along

### Old But Not Lovable

There are those. Oliver Goldsmith wrote in *She Stoops to Conquer*, who "love everything that's old: old friends, old times, old manners, old books, old wines."

Well, judging by the 56,000 cu. ft. of *stuff* collected in the first phase of the cleanup campaign, Sandians had an even longer list of lovable. As Don Schubeck (3412) aptly visualized it, the old materials collected in July could fill up the whole dining area -- 7125 sq. ft. -- of the cafeteria, and be piled eight ft. high (leaving a breathing space of two ft.).

But no more. Our attachment to old chairs, bikes (one stood for two years with a bent wheel in front of Bldg. 802), chemicals, floor tiles, tools, and some ownerless, unidentified instrumentation covered by canvas (which sat there for years -- and no one peeked?) is over. Needless to say, the hold on these "collectibles" has been relaxed. (No antiques were found; Sandia just hasn't been around for the century it takes to qualify.)

What we have to show for it, in one case, is new space for a buyer's office. We have some needed storage space in most offices, labs, and hallways (all we have to watch for now is *not* to fill it up again). We have an instrument trailer that was moved -- once the mounds of clutter were removed from under it -- a half-mile closer to the owning organization. We have disinherited all sorts of oddities -- like 31 drums of liquid variously labeled "Oil," "Solvents," and "Unknown" -- that were left behind by previous occupants.

In fact, more than 141 lbs. of hazardous solid waste (mainly metal) was carted off to a central collecting point, says Sharon Felicetti (3314). Add to that 4000 gallons of hazardous liquid waste (a cocktail of solvents, photochemicals, oils, epoxies, resins, polyurethane compounds, and those ubiquitous unknowns), and you can see that the the people over in analytical chemistry -- Charles Gray (3311), take a bow -- will have a lot of work screening it all before it's shipped off-site for disposal.

Breakdowns of the other materials collected are as follows. The winner is scrap material, filling 19 floats (each a 40-ft. flatbed trailer) plus seven box cars. Place: trash, with seven three-ton truckloads plus 50 extra dumpster pickups, totaling 12,400 cu. ft. Show: furniture, with seven floats. Also ran: storage (of property and material), with 4850 cu. ft.

All in all, the cleanup's been successful thus far. And Sandia is on the way to a new, clean image, symbolized best perhaps by the very recent repainting of the formerly bleached Labs sign on Wyoming.

There are three more months left to go. Organizations 1000, 2000, and 5000 -- and parts of 6000 and 7000 -- are still on the firing line. Their challenge is obvious -- and any urge to adulate the old (or, for inertia's sake, to ignore it) is outmoded. ●ID

With the areas beginning to look attractive again -- except, of course for the construction sites -- it's a good time to resolve to stow your soda cans, stack your newspapers (for the Lions' Clubs, maybe), and swallow your cigarette butts.



EXECUTIVELESS CHAIRS line the reclamation yard, for yards on end. Org. 3000 and parts of 6000 and 7000 already have done their share of interior -- and exterior -- redecorating. Now, during the dog days of August, the tables turn on parts of 1000, 2000, and 7000.

## LAB NEWS

Published Fortnightly on Fridays

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# Holographic Method 'Locks' on Image

Holography has always looked attractive as a technique for optical pattern recognition. And it works well — if there are no distortions.

Now a new method of identifying images of target objects overcomes the problem of distortions in image scale, rotation, or angle of view.

It may eventually be useful in Strategic Defense Initiative applications — for example, to identify plumes of enemy rockets. The optical pattern scan also has the potential to replace some methods now used for satellite monitoring and aerial reconnaissance in both the military and the civilian worlds.

Other uses are possible in biology and medicine — perhaps microscopic detection and identification of arbitrarily oriented cells of hazardous tissue.

"Existing holographic pattern recognition systems can identify a target rapidly by matching it to information stored on a holographic template," says George Schils of Imaging Technology Division 8355. "But the method suffers a basic limitation: Target images must match the template exactly — in scale, rotation, and angle of view." George is working on the project along with 8355 supervisor Don Sweeney and Ellen Ochoa (also 8355).

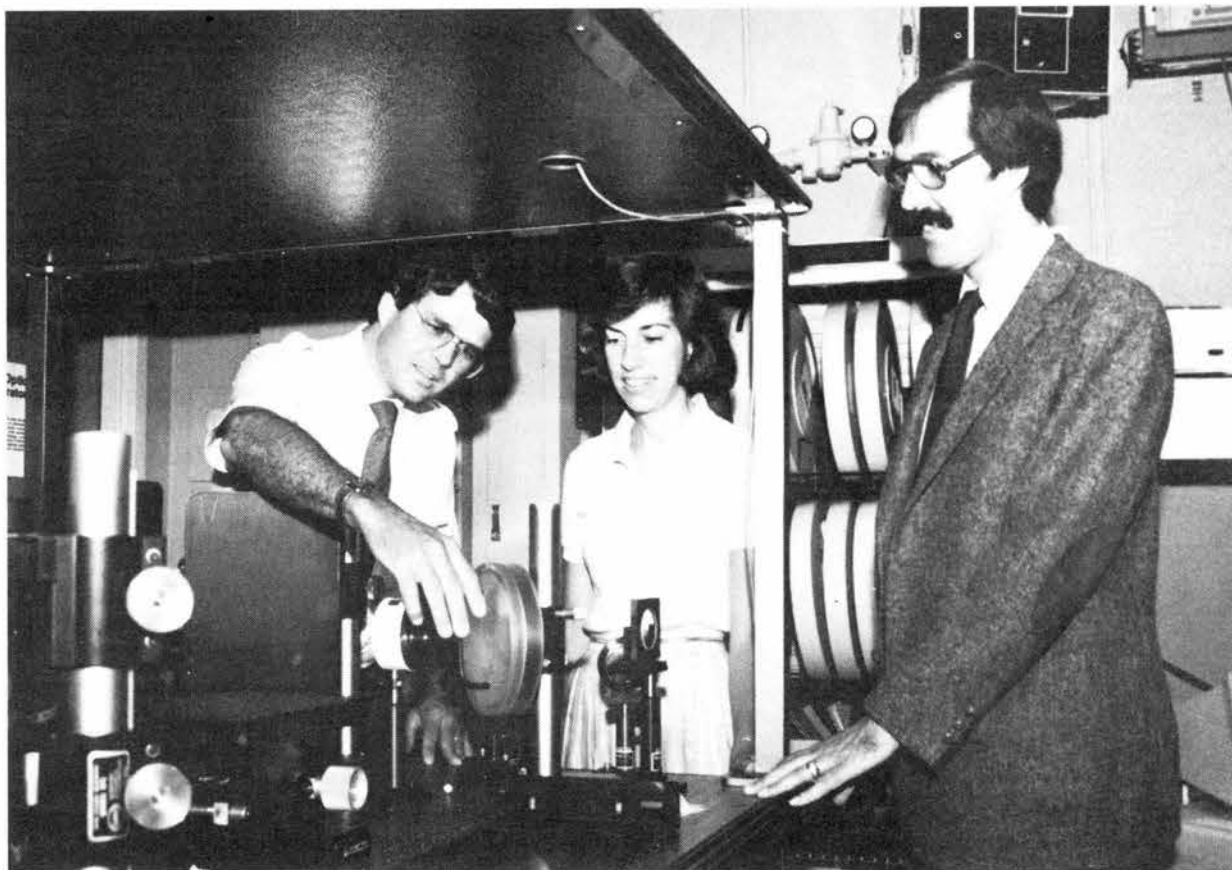
The new technique, developed primarily for target recognition, does not have this limitation — it produces a *generalized* holographic template that includes all information about a prospective target. It will identify a target image even with large variations in the object's position, brightness, or rotation. And the identification method is effective even if the target is partially obscured by other objects, altered in appearance by reflections or glint, or buried in other "visual noise."

"Our newly developed 'lock and tumbler' hologram's features make it particularly attractive for 'real world' optical pattern recognition applications where we often have less than ideal visibility," George continues. It's called "lock and tumbler" because the technique employs a spinning correlation filter whose angular harmonics closely approximate those of the target image.

"That is, a target is dissected into a number of fundamental components called Fourier harmonics," George explains. "These components are then recombined in a unique way that is determined by a computer algorithm called spectral iteration." This produces the hologram that serves as a unique "key" for the target — a rocket plume for example. The computer-generated key fits no other image, and therefore recognizes only the target that it has been programmed to identify. Because this is analogous to using a key in a lock, the "lock and tumbler" name was coined by the developers.

Although the Sandia researchers believe the new holographic technique is an important development, they say that equally important may be the mathematical technique employed in its design, which may be extended to other pattern recognition problems.

So far, this new technique has been demonstrated successfully only in the laboratory, but George explains how it may work in a real-world integrated system: "An image acquisition device, such as a camera or infrared detector, would capture an image, and a spatial light modulator would be used for readout into a coherent optical processor. The actual hologram would be a part of the processor, and it is here that the image would be compared to the hologram."



LOOKING OVER the holographic components in the optical science lab are (from left) Don Sweeney, supervisor of the Imaging Technology Division 8355, Ellen Ochoa, and George Schils (also both 8355).

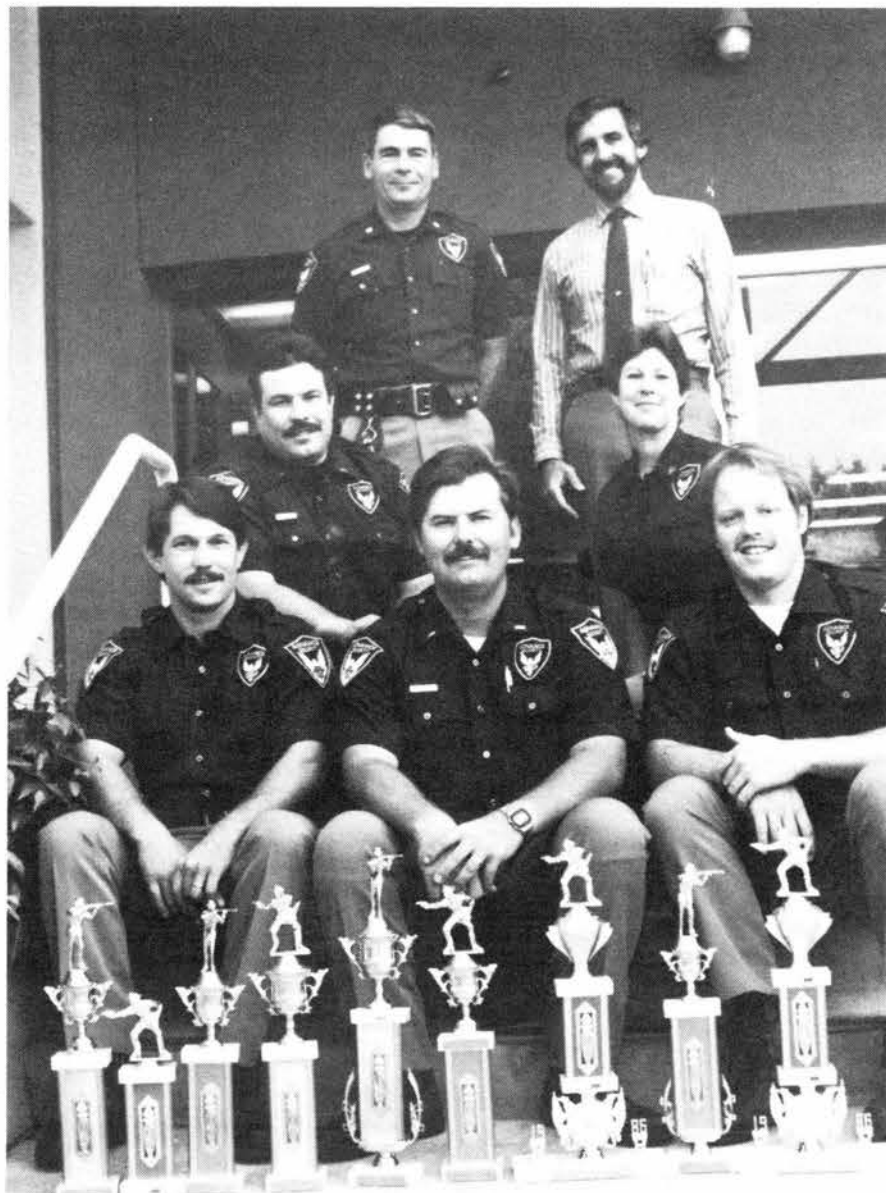
"The result of the optical calculation would then fall on another optical detector, which would convert the detected intensity into digital information," he concludes.

The researchers continue to work toward developing an even more versatile lock and tumbler hologram that retains its immunity to variations in scale and rotation.



## SANDIA LIVERMORE NEWS

VOL. 38, NO. 16    SANDIA NATIONAL LABORATORIES    AUGUST 15, 1986



ADVANCE SECURITY employees based at Sandia Livermore captured 14 awards in the recent DOE pistol tournament. Mark Lindstrom took first in Novice Class, third in Stress Course, second in the National Police Course, and second in the Action Revolver Course. Don Gross took fourth in the Novice Class and fifth in Rifle Course. Todd Keck won fourth in the Stress Course and sixth in Rifle Course. Bob Sater captured first (Expert) in the National Police Course, first in the Rifle Course, and fifth in the Action Revolver Course. Bette Moore earned a first (Sharpshooter) in the National Police Course, and Top Femaie in the tournament. Les Sundberg took a third place and David Elsea a fourth in the Rifle Course. Shown with their trophies are (front row from left): Todd, Bob, and David; (second row) Les and Bette; (third row) Don and Physical Security Division 8261 supervisor Marlin Pound. Mark was not present for the photo.

### Congratulations

Steve Ehle (8164) and Vicky Scuitto, married in South San Francisco, July 19.

Annette Talley-Bailey and Gary Bailey (8244), a son, Devon Gareth, July 24.

Karen Meyer (8026) and Dominic Cafaro, married in Guerneville, June 7.

Shelia Daigle (8263) and Conrad Beard Jr., married in Hayward, Feb. 15.



## BES Award

spectroscopy, and by John Shelnett (6254) with Raman spectroscopy.

### Making Materials

The Sandia-based team has conducted extensive preliminary studies on boron carbides over the past few years. But these materials, provided by outside sources, were not of the quality generally required for semiconductor studies. To make further progress, Sandia will fabricate materials of higher quality — a critical element of the new initiative.

In Terry Aselage's words, "The task presents opposing challenges in materials preparation. On the one hand, we want to generate as much disorder as possible in boron carbides. On the other, we need nearly perfect crystalline materials for applications of icosahedral boron arsenide and boron phosphide."

Both Terry and Art Mullendore (1831) are pursuing innovative approaches to the fabrication of these crystals. "These techniques include solution growth from metallic fluxes, chemical vapor deposition, high-pressure melt growth, ion implantation, and atomic layer epitaxy," explains Terry.

Making these materials and understanding a bit more about them are tall orders in themselves. When the Sandia scientists reach that point, their results will determine what they will look at and do next. "Many of us feel that the study of these materials is still in its infancy," explains David. "We will have unique opportunities to find more and more uses for them." ●ID

### Earlier "New Initiative"

## '85 Project Clocks In

Last year's BES-awarded project, "Advanced Growth Techniques for Improved Semiconductor Structures," got off the ground on April 1 of this year — as soon as funding became available.

This Sandia project will use ion and laser beams to stimulate and modify the growth — via MBE (molecular beam epitaxy) and CVD (chemical vapor deposition) — of high-quality, layered semiconductor materials. The basic objectives are to improve the quality and variety of layer combinations that can be obtained. These techniques should also lower the temperatures, speed up the growth rate, and create a smoother crystalline layered surface (see LAB NEWS, Nov. 22, 1985).

Tom Picraux (1110) had something of a head start with his half of the study. "We tried to accomplish some of the long lead time items early on," he says. "Thus we spent almost twelve months on designing, constructing, and refining our own version of an MBE growth chamber that would allow us to grow the material under beams. We are also putting in diagnostics that will allow evaluation of the structure and quality of the material right in the growth chamber."

Tom's group has set up a laser and is getting an ion beam system going. "We're just starting to grow various silicon-germanium structures," he says. These two elements have slightly different crystal lattice sizes; when the two are put together in different combinations, they form strained layers (see LAB NEWS, June 12, 1983).

The second half of the project, coordinated by Wayne Johnson (1126), is now in gear. His first step will be to use the CVD process to grow thin films of gallium arsenide on a silicon surface.

"At the end of July we installed our metal-organic CVD reactor, complete with a design modification that allows us to work at low pressures," says Wayne. "It's all hooked up and we're ready to roll."

### The Anomalous Element

## Everything But Boring . . .

It's mined in the deserts of California. It's the major constituent of solids that are almost as hard as diamonds — plus light and strong enough to use as armor for aircraft. Its solids melt at very high temperatures (up to 1000 degrees C above silicon). And some of its compounds have a structure that's disordered enough to make a dozen Sandian researchers "excited about and even addicted to" learning more about them.

It's the fifth chemical element in the periodic table — boron. The sound of its name belies its nature. (The name is derived from one of its compounds, *borax*, + *on*, as in *carbon*.) Boron has many unique chemical features when combined with carbon (the sixth element), or phosphorus (No. 15), or arsenic (No. 33).

Although the boron-rich molecules' unusual chemistry — three-center bonding — was described in the past (winning a Nobel Prize for William Lipscomb of Harvard 10 years ago), Sandia scientists are now turning their attention to other properties.

### The Prologue of An Exciting Adventure

"We are beginning to study a whole new world of boron-based solid-state physics," says David Emin (DMTS, 1151). "The boron-rich solids are extraordinary materials. We are learning about their electronic, magnetic, optical, vibrational, and thermal properties. It puts us in the prologue of an exciting adventure."

Already the electronic properties are proving to be quite different from those of conventional solids. In fact, "almost everything we know about boron-rich solids is anomalous," says David.

### Two Classes of Borides

The group of boron-rich solids that interests the Sandians is structurally based on twelve-atom clusters (see photo). The boron atoms lie on the 12 vertices of an icosahedron (a 20-sided polyhedron). A unique feature of these materials is that the bonding *between* icosahedra is stronger than that *within* icosahedra.

Depending on the minority constituents of the solids, the material may be either an electrical conductor, e.g. the boron carbides, or an insulator, e.g. icosahedral boron pnictides.

Boron carbides look like typical metals: They're shiny, opaque, and hard. The boron pnictides — boron arsenide and boron phosphide — have wide optical gaps; when pure enough, they are transparent like window glass.

Both types of icosahedral boron-rich solids will continue to be studied at Sandia.

The boron carbides are the most intensively studied boron compounds. One intriguing aspect is David's theoretical finding that the charge carriers are bipolarons: the electrons are bound together in pairs, like miniature binary stars. To accomplish this pairing, the attraction between electrons — arising from their mutual interaction with atoms around them — has to overcome their direct repulsion. Because the electrons are distributed over the surface of the entire 12-atom icosahedron, the repulsion among them is abnormally small. Also,

because boron icosahedra are both strongly bonded and composed of small atoms, the indirect attraction between electrons is quite large. As David relates it to physical experience, "This indirect attraction is analogous to that seen in two bowling balls placed on an elastic surface such as a trampoline." Thus, in solids (as opposed to free space), like-charged particles can attract one another, albeit indirectly.

Furthermore, the paired electrons move together. To move, the bipolarons "hop" from one icosahedron to another. Evidence for this hopping-type of electronic transport (as opposed to relatively smooth, uninterrupted motion) meshes with a theory developed earlier by David and Ted Holstein (formerly of UCLA, now deceased).

### Uses as Thermoelectrics, Insulators

In general, solids conduct heat better than do gases or liquids. Boron carbides are nature's hardest solids. But, surprisingly, they are poor heat conductors. Boron carbides promise to be good materials for use in thermoelectric energy conversion (in which a temperature difference across a material produces an electrical voltage). The greater the difference in temperature between the two sides, the more power generated. This form of electrical power generation is being considered for use in space-based systems.

Sandia's scientists are studying those properties of boron carbides that can be improved to provide the most efficient systems. For example, even though boron carbides look like crystals (with ordered atomic positions) upon being X-rayed, their constituents can vary (be disordered) at different sites. This disorder allows boron carbides to be made with different carbon concentrations — which can be done with relative ease in the range of 9-20 percent carbon. Beyond this, such a disordered microstructure is necessary to make boron carbides not only good, but exceptionally good, thermoelectrics.

Boron carbides are both stable and highly efficient at temperatures that would melt other thermoelectric materials. One such environment is a nuclear reactor. Indeed, boron carbides made with the boron<sup>10</sup> isotope are already being used as neutron absorbers inside such reactors. "Many studies show that radiation damage to boron carbides is limited," says Terry Aselage (1842).

In turn, the boron pnictides have received only scant attention up to now. "We know much less about them," says David. "No one's really looked at them before." Sandia scientists are beginning to study them for their long-term potential.

Terry has already prepared some boron-rich insulators. And Bruno Morosin (1132) has performed X-ray diffraction studies on several of those insulators. David, Iris Howard (UNM), and Al Switendick (1151) have begun theoretical studies.

The boron pnictides appear to be good candidates for eventual very-high-temperature electronic and optical applications. They may become useful within engines and nuclear reactors, and in space.

It all boils down to boron — and icosahedral boron-rich solids — being special.

### Congratulations

Pat and Rob (6431) Rechar, a son, Kyle Lance, Aug. 4.

Diana and Emil (5142) Kadlec, a son, Emil Andrew, Aug. 7.

### Sympathy

To Kenneth Mazze (3423) on the death of his mother in Albuquerque, July 12.

### Common Yes, But Expensive?



Perhaps the commonest, but also the most expensive, means of generating a foam is the method mimicked by opening a bottle of beer and pouring it into a glass, namely the aerosol method. It begins with a foamable liquid (water and a surfactant) and a foaming agent: a gas such as [carbon dioxide,] isobutane or a fluorocarbon compound, dissolved in the liquid at high pressure. The foam is produced by simply releasing the solution from its pressurized container. At atmospheric pressure the foaming agent returns to the gaseous state, thus forming the cells in the foam.

— Andrew Kraynik (1511), James Aubert, and Peter Rand (both 1813), in *Scientific American*



GEORGE CONNOR to supervisor of Benefit Systems and Health Care Planning Division 3545, effective June 16.

George joined Sandia in August 1964 as a member of Administrative Systems and Procedures Department 4110. In 1966 George went to the compensation organization where he worked in position evaluation. In 1967, he became a buyer in Purchasing, and in 1970 joined Personnel where he worked in the personnel data area. Since 1972, he has been in the computing organization where he worked in systems analysis and programming on personnel systems, data design and planning, and information systems planning.

George served two years in the Army Infantry as an officer in a special weapons company. He has an MBA from Oklahoma State.

He is active in his church and Boy Scouts. In his spare time, George enjoys hunting and skeet shooting. He and his wife Kathy have two sons and live in the NE Heights.

\*\*\*

SUZANNE WEISSMAN to supervisor of Analytical Chemistry Division 1821, effective July 1.

Suzanne has been a member of the same division since she joined Sandia in December 1980. Before coming to Sandia, she was a visiting assistant professor at the University of Illinois, then a chemist at the Lovelace Inhalation and Toxicology Research Institute.

Suzanne has a BS in chemistry from Oregon State University and an MS and PhD in analytical chemistry from the University of Illinois. She's a member of the Society for Applied Spectroscopy, the American Chemical Society, and the NM Network for Women in Science and Engineering.

Suzanne's hobbies include photography, gourmet cooking, and tennis. She likes to travel in her spare time. Suzanne and her husband Steve live in the NE Heights.



GEORGE CONNOR (3545) and SUZANNE WEISSMAN (1821)



PAUL MONTOYA (3435)

PAUL MONTOYA to section supervisor (lieutenant) in Patrol Division - South 3435, effective June 1.

Paul joined the Labs in January 1985 and became a full-time security inspector in August 1985. After serving in the Navy's Security Augmentation Force (SAF) from September 1979 to September 1982, he returned to New Mexico and was a deputy in the Torrance County Sheriff's Department. Paul held the position of lieutenant with the Torrance County Sheriff's Posse from October 1984 to October 1985 and is currently a member. He is a deputy in the Torrance County Reserve and is a second class petty officer in the U.S. Navy Reserve. Paul studied business law at San Diego Community College and

juvenile procedures and police community relations at Central Texas College.

In his spare time, Paul likes to break horses. He and his wife Anita live in Escabosa.



DICK PETTIT (7243)

DICK PETTIT to supervisor of Measurement Standards Laboratory Division 7243, effective April 1.

Dick joined Sandia in August 1971 as a member of the Materials and Process Sciences organization. His work at Sandia has been the study of optical properties of materials. In 1981, Dick received the DOE Technical Excellence Award for work in the development of the black chrome plating process used to form selective absorber coatings on parabolic trough receiver tubes.

Dick has a BS in science engineering from the University of Michigan and a PhD in applied physics from Cornell University. He is a member of the American Association for the Advancement of Science, the Society of Photo-Optical Instrumentation Engineers, and the American Institute of Physics.

In their spare time Dick and his family enjoy camping, cross-country skiing, and traveling. He and his wife Ellen have two children and live in the NE Heights.

## Welcome

### Albuquerque

Gene Bowling (7252)

### New York

Michael Desjarlais (1265)

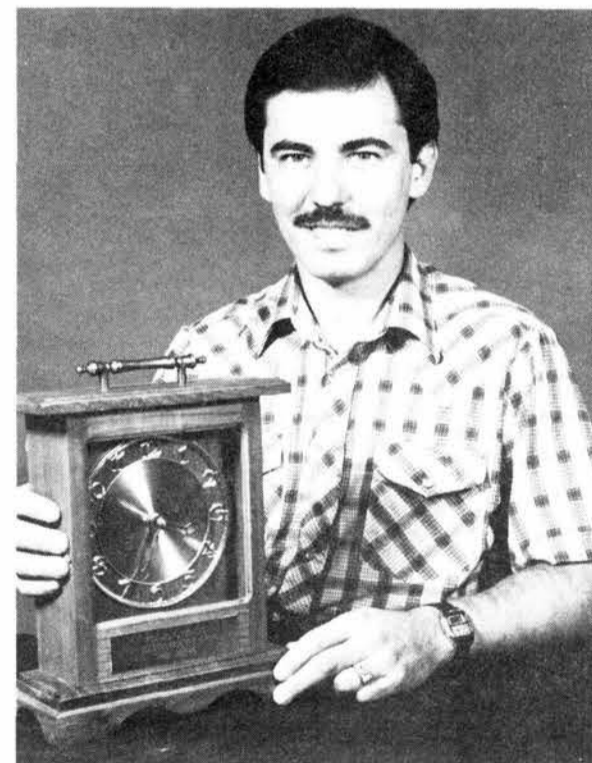
### Oklahoma

Gregory Cox (5252)

Norman Wasson (7832)

### Texas

David Landrum (1635)



REGGIE TIBBETS (7815) received a bowler of the year award and was presented with a trophy clock by the Albuquerque Men's Bowling Association during the AMBA Annual Installation Banquet Aug. 2. Reggie's award is for the bowler who has shown most improvement over his previous record during the year. He earned the award by holding three league averages over 195—201, 195, and 196; he had five scores over 700 in three-game series this year, with a high of 775, and had a 16-pin increase over his average last year.



## Showpiece Sessions Chalked Out

# Le Grand Tour: A Remedy for Ignorance



More than 90 exhibits will be open to all Family Day visitors on October 18th. Two-thirds of these will be active, i.e. accompanied by either live narration and Q&A sessions or by movies and video presentations.

Topping the popularity list every Family Day are the rocket sled shots. Two are scheduled this year, for 10 a.m. and 2 p.m., at the two-mile track (lengthened since Family Day five years ago).

The catwalk over PBFA II in Area IV will be open to anyone without a fear of heights. The Hermes II facility, the Wind Tunnel, and the Parachute Lab will also pull out the welcome mats.

Dick Bassett (2564) will present a one-man show of up to 15 electric vehicles. Six different models of cars, ranging from subcompact to mid-size, will be displayed. Each of them is being, or has been, evaluated by Sandia — one dates back to 1975.

The computer people are setting up a walk-through tour of the computer annex that will offer a glimpse of most of Sandia's mainframe computers. Also, they'll be setting up some interactive terminals — some with colorful graphics — for audience participation in a tent in the mall (north of Bldg. 880).

Exhibits on safeguards will cover a wide variety of technological advances in communications, personnel identity verification, "See in the Dark" infrared, video motion detection, alarms, and intrusion sensing.

For the kids, there will be a chance to see the Gantry robot fetching and returning a ball, and to watch some animated portrayals of the wind turbine.

The main machine shop and the glass lab will demonstrate some of their capabilities and display samples of their wares. Additional show-and-tell sessions on nuclear weapons, satellite system hardware, microelectronics, expert systems, and robotic maintenance of a mock-up nuclear reactor are on the boards.

A new item on the agenda will be Dept. 3160's and Div. 3153's premiere of a visitor-orientation film, to be shown continuously at the Visitor Center. The three-screen video presentation, ". . . exceptional service in the national interest" (the name echoes the '86 Family Day theme), will cover current work, notably the weapons programs, at Sandia. This film will become Sandia's main orientation film after the curtains close on Family Day.



LOOKS PHOTOGENIC, BUT WILL IT FLY? Experimental shape of a test vehicle supported aloft in Bldg. 865 caught the eyes of Family Day visitors back in 1959. One thing's certain, a lot of air has flown through the wind tunnel since the days of SPTV-3. In fact, today there are two wind tunnels. The old trisonic one has been upgraded to a velocity ceiling of Mach 3. A hypersonic tunnel was added in the 1960s: This one works in the hypersonic range of Mach 5 to 14. This time around at Family Day, the Experimental Aerodynamics crew will display much smaller missiles, closer to one foot in length.

## The Shows of Yesteryear

Back in April of '59, the first Family Day was the first time ever that families could set foot inside Sandia's sacred and secured precincts.

As if that in itself weren't wonder enough, that Family Day menu highlighted the gee-whiz computers of the day: IBM's 704 and 705 machines.

The 704 was gargantuan enough to fill up a whole room — about 2400 sq. ft., larger than the space in most houses — in Bldg. 880. The machine had replaced about 25 mathematicians in performing repetitive calculations. But it contained only 4000 words of memory, making it barely smart enough to run a chess program that anticipated alternatives to a depth of two moves.

Today, programmers find it difficult to do anything with a million words. And they expect a Cray, for example, to do 50-100 times as much work. Any PC is much more powerful than the

704, and even hand-held calculators are almost as good.

Another set of exhibits that wowed the 15,000 visitors was in Bldg. 860. Here, environmental testing of components was demonstrated via shake tables; salt and dust chambers; and high altitude, humidity, and temperature chambers — all of these primary ways of simulating the turbulence encountered by bombs and missiles.

Static jigs, used for testing strain and stress on plastic materials, were Bldg. 864's contribution. Telemetric devices, a wind tunnel, parachutes, and research rockets rounded out the tour, along with shop displays of machines, plastics, electronics, sheet metal work, and metal casting.

They came, they went, and Sandia conquered them all, adults and kids alike.

The question is, were there any young visitors back then who subsequently became today's technicians — or theoreticians — at the Labs?

## Events Calendar

Aug. 15-17 — Bernalillo County 4H Fair, Tingley Coliseum, NM State Fairgrounds, 243-1386.  
Aug. 15-17 — "Tierra Sagrada," a bilingual, romantic musical about life and love along the Rio Grande; 8 p.m. Fri.-Sat., 3 p.m. Sun.; La Compania de Teatro de Albuquerque, El Nuestro Teatro, 256-7164.  
Aug. 15-Sept. 1 — Exhibit, Senior Citizen Artists, KiMo Gallery.  
Aug. 15-Sept 30 — Exhibit, Ye'ii, Ye'ii Bichai and Navajo dry painting ceremonial tapestries; 9 a.m.-4 p.m. Mon.-Fri., 10 a.m.-4 p.m. Sat.; Maxwell Museum of Anthropology, 277-4404.  
Aug. 15-30 — Art show: Victor Masayesva, Hopi sculptor and painter; Indian Pueblo Cultural Center, 296-9125 or 296-0766.  
Aug. 15-28 — Exhibit by Albuquerque United Artists, South Broadway Cultural Center, 848-1320.  
Aug. 15-30 — Sandpainting of the Navajo, one-man show (demonstration Aug. 16, 2-5 p.m.); 10 a.m.-6 p.m. Mon.-Sat., 1-4 p.m. Sun.; free, Adobe Gallery (Old Town).

Aug. 15 — Zia Pueblo Feast Day, 782-4481.  
Aug. 16 — Summerfest: Armenian/Carpathian Festival, 5-10 p.m., Civic Plaza.  
Aug. 17 — Reception for Acoma calendar artist Paula Parker, 1-4 p.m. in the Pueblo Gallery, Indian Pueblo Cultural Center, 296-9125 or 296-0766.  
Aug. 21-24 — New Mexico Paint Horse Show, Horse Arena, NM State Fairgrounds, 848-2844.  
Aug. 22 — Concert, Chamber Orchestra of Albuquerque (Bach, Stokowski, & Brahms), 8:15 p.m., Albuquerque Little Theatre, 247-0262.  
Aug. 22-24, 30-31 — "Mother Courage" by Bertold Brecht, 8 p.m. (6 p.m. Aug. 24, 31), Vortex Theatre (Buena Vista & Central), 247-8600.  
Aug. 22-Sept. 1 — Los Voladores and the Aztec Dancers (the Voladores Fliers perform atop a 60-ft. pole); 7 p.m. Mon.-Fri., 6 & 8 p.m. Sat. & Sun.; Indian Pueblo Cultural Center, 843-7270.  
Aug. 23 — Scandinavian Midsummerfest, 5-11 p.m., Civic Plaza, 768-4575.  
Aug. 24 — Jazz at Madrid by the New Mexico Jazz Workshop, 3-7 p.m., Madrid Ballpark, 842-6659.

Aug. 25-Sept. 26 — New Mexico Glass Show VI, UNM Student Union Bldg., 242-5582 or 842-5541.  
Aug. 28-Sept. 1 — Tenth Anniversary Celebration: Indian dances, fashion show, arts & crafts show, crafts demonstrations, entertainment; 12-5 p.m.: Indian Pueblo Cultural Center, 843-7270.  
Aug. 30-31 — Feria Artesana: Southwestern Hispanic arts & crafts celebration, 10 a.m.-8 p.m., Convention Center and Civic Plaza, 768-4575.

## Voter Registration Drive

The League of Women Voters will be at Sandia to register Bernalillo County residents on Wednesday, Aug. 20, from 10 a.m. until 2 p.m. in Bldg. 800, next to the Badge Office. For more information, call June Aydelotte (3543) on 4-7433.



## Rape Victim's Survival Instinct Given a Boost

"Despite all appearances, rape is not sexual," says a Sandian who lived through it a year ago. "Rape is just a brutal means of getting control over someone else. What it is, is an act of violence." A fixed power game in which the rapist has all the clout.

Until the moment the ambulance arrived, she was deadlocked in her utter defeat. She could not even be thankful yet that her life had been spared — no way to know if the rapist was still in her home. The ambulance siren was picking up where the whine permeating her mind left off.

But now, with the police swarming all over her apartment building, she could let go. And she could succumb — to protection this time — letting them keep their eyes and ears open for her attacker.

Her spiel to the police about what had happened tumbled out quickly and disjointedly; it was sufficient for their purposes, for now. An ambulance gave her a quick ride to the UNM hospital, where two women from the Rape Crisis Center (part of the UNM/Bernalillo County Mental Health Center) were to meet her. It was 1:30 in the morning.

When the two women came into the room, they identified themselves as volunteer advocates and gave their names. "I was so grateful to them for just *being* there," she says. "They reassured me — 'you'll be OK,' 'we'll help you.' And they encouraged me to say whatever I was thinking." It was exactly what she needed.

The volunteers' presence reassured her in another way. She panicked anytime a man passing by in the hospital looked at her. "It might be him," she remembers thinking, "and he's watching me for my reaction." The two women accepted her vulnerability and paranoia as real but temporary.

Another boost to her morale was to have someone by her side during the physical exam. "I didn't know just what was going to happen with the exam,"

**Several hundred rape victims receive crisis intervention services from the Albuquerque Rape Crisis Center every year. Thousands of sexual assault victims call for guidance. Some of them are Sandians. Many aren't. But, to some degree, all are our neighbors.**

**Many victims are normal adults who simply need a helping hand during an unpredictable and overwhelming emotional trauma in their lives. Others are caught in a chronic bind. Some are children.**

**Not all victims are women: One of every eight men in the U.S. is sexually assaulted, often before the age of 18 (statistics from the Santa Fe-based Sexual Assault, Prosecution, and Treatment Program).**

**Dozens of United Way agencies help people in our community. Sandia's Employee Contribution Plan (ECP) is an easy way of donating a share of your salary — or a specified dollar amount — to the United Way. Plan to give your fair share in October.**

she continues, "but I knew it was going to be awful." One of the advocates held her hand through the whole procedure, performed by a female doctor. Afterward, "the advocate's hand was covered with red marks," she recalls.

At the same time, she was encouraged to give the doctor a fuller report than she had given earlier to the police. Slowly, she was winding down.

Then she received a cocktail of 12 pills, including antibiotics. Both volunteers stayed with her to watch for possible negative reactions to the medication.

"At one point I became really irritated because no one was leaving me alone for even a second,"



she says. "I had been asked 'Are you all right?' so many times and now I wanted to pull myself together before seeing my [teenage] son. I had no idea how he'd react to all this." As it turned out, she was glad to have the advocates come along with her and her son for a cup of coffee at the hospital cafeteria. It all came together somehow.

They all hugged her.

Then dawn came. It was time to go back to the apartment. The violated home, the invaded castle. Earlier, the police had taken the available evidence, made photographs, and locked the place up. Now, they'd be there again, checking all the corners before she walked back in. They were even thoughtful enough to turn on all the lights.

Still, it was eerie. She was back in the place where someone had broken and entered.

It was all too easy to flash back to what had happened to her only hours earlier.

She had been sound asleep then. The first thing she sensed was a hand pressing into her face. "I couldn't scream or breathe," she recalls. "He pushed me into my waterbed. I hit bottom. I didn't even have time to react. He wrapped my pajama top around my whole head and tied my hands behind my back. I never saw him in the dark. To this day, he is just a voice.

"He must've been in the house for awhile before he woke me up," she says. "He had unscrewed all the lightbulbs — even the outside ones. One window was taken out in each room. Both front and back doors were open. These people are weird and cold-blooded. He took all the precautions. It was like he acted out a script.

"He was really strange," she continues. "After hearing about what had happened, the police filed 11 criminal counts against him. And he was very calm, even when he threatened to hurt me 'real bad'; that's what was so frightening."

She couldn't stay there. She slept in the homes of various friends every night for a week before she could stomach the thought of being alone overnight in her own home. Later on, she moved.

The rapist is still at large. The police never caught him. Her case was never tied in with other Albuquerque victims. "Walking around somewhere is a nameless, faceless guy who's probably forgotten all about it," she says glumly. "My therapist tells me that he could be a casual acquaintance, and that I'd probably be really surprised if I could find out who he is. But I don't think the case will ever be resolved."

Her therapist, Sabrina Garcia, was her ultimate

lifeguard and a major part of the Rape Crisis Center's services. Six months of psychotherapy were needed to get over her reactive fear of the dark, fear of strangers, and inability to concentrate. She was intent on not remaining intimidated for the rest of her life. She wanted to rebuild her life and to make her house her home again. At least the therapy was free.

Yet the long-term trauma was as severe as if she had gone through heart surgery and a mugging. "That one weirdo messed up my whole life," she says. "But I had a survival instinct." Yet she sure needed that temporary boost from the Rape Crisis Center. It all took time.

"It took me a long time to get angry," she notes. "About as long as it took me to be happy to have survived at all."

Back at Sandia, her productivity level is up again. "But the crime changed every aspect of my life," she concludes. "For a while, I was aggressive and obnoxious at work. The slightest confrontation would trigger memories of powerlessness and make me overreact. Now, I'm more balanced — I became less aggressive and more assertive. And I like it; I'm in control of my life again.

"The amazing thing is, I told a few people at work about my experience," she says, "and two women admitted that they knew how I felt — they had been raped too." They exchanged phone numbers, just in case old fears would surface again at night sometime.

According to United Way, N.M. statistics show that 1 of 4 women in the U.S. will be sexually assaulted during her lifetime. Those odds, in themselves, are a good enough reason to morally support those to whom it has already happened — and to financially support the agencies that help the victims do more than simply survive. ●ID

### A Bout: Spaghetti for United Way

## Boxing Champ Plans Round In Cafeteria

Paul "Super Fly" Gonzales — a boxer who starred in last year's United Way film short — was a kid from the barrios of Los Angeles who made it to the Olympic heights in the summer games of '84. He became the first American of Hispanic heritage to win a gold medal.

Paul's triumph was not only in topping the light flyweight division, but also in gaining the title of the L.A. games' Most Outstanding Boxer (the Val Barker Cup). The left-handed, fatherless boy from a family of eight had a dream, and United Way helped him achieve it despite what seemed like insurmountable odds.

It all started 12 years ago when an officer in the L.A.P.D. grabbed him during a gangfight and shook him. Then the cop, Al Stankie, took over as father and friend, and trained him for a boxing career. United Way provided a place to train. Today, Paul fights for trophies and awards. Since he turned professional, he's won five out of five bouts. He's determined to become a world champ.

Paul is now helping United Way achieve one of its own dreams. As he puts it: "You have to help kids. *Someone's* gotta do it." He's a spokesman for the American Cancer Society and for the Hispanic Leadership Development Program. On his own, he founded the Stay-in-School Project.

Both Paul and "Lanky Al Stankie," his full-time trainer (and former boxer), will be mingling with the cafeteria crowd on Aug. 26 from 11:15 a.m. to 1 p.m. Paul's favorite in-training food, spaghetti and meatballs, will be served — along with veggies and garlic bread — for the flyweight price of \$2.25.



## Take Note

Paul Cooper's (7132) participation in DOE's Operation Cerberus earlier this year led to his involvement in the development of an integrated barrier reference manual that is being used in the training of DOE security specialists at the DOE Central Training Academy. Paul discussed explosives and ballistic-breaching techniques and how they perform with other barrier system elements.

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Jerry Villane (5123) received the Society of Automotive Engineers (SAE) Recognition Award for outstanding service to the aerospace community April 23 at the society's biannual meeting in Phoenix. Jerry received the award for his participation in SAE's Committee AE-9 (Aerospace Avionics Equipment & Integration). Committee AE-9 is recognized for drafting industry standards and for commenting on military standards covering digital avionics systems for airborne armament and systems integration.

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Margaret Carroll (7861) was awarded the American Society of Safety Engineers' (ASSE) Johnson & Higgins Scrivener Award at ASSE's annual meeting in New Orleans in June. The award, recognizing the best paper published by an ASSE member in a non-ASSE publication, was given to Margaret for "Polyvinylchloride (PVC) Pipe Reliability and Failure Modes," which appeared in *Reliability Engineering*, a British publication.

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If you haven't been able to find anyone from the Electron Optics group this past week, it's because most of the division has been involved in the annual Joint Meeting of the Electron Microscopy Society of America (EMSA) and the Microbeam Analysis Society (MAS) that's been in session at the Albuquerque Convention Center all week. The meeting, which drew more than 2000 visitors from the U.S., Canada, Mexico, Europe, China, and the Soviet Union, was organized by Sandians and UNM faculty and staff members. Sandians involved in organizing the event are Bill Chambers (1822), MAS Local Campaign Chairman; Marty Carr (1822), EMSA Local Campaign Chairman; and Al Romig (1832), MAS Technical Program Chairman. Members of the local arrangements committee include Paul Hlava, Ellen Semarge, Nelda Creager, Tom Headley, Chuck Hill, Bill Sorenson, Rick Lujan, Tony Romero, Mark McAllaster, and Lori Maestas (all 1822). Sandians who organized symposiums are Michael Cieslak (1833), Microanalysis in Joining; Paul Hlava (1822), Geological and Gemological Applications; Gary Kellogg (1134), Field Ion Microscopy; and Tom Headley (1822), Metals and Alloys. Barney Doyle (1111) presented a tutorial on Nuclear Microprobe Analysis.

Videotapes of the meeting tutorials and the presidential symposium, "A Historical View of Microanalysis," as seen and recalled through the eyes of many of the founders of the field of microanalysis will be available at Sandia's Tech Library.

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All you buckaroos and rodeo fans will have an opportunity to kick up your heels at the 1986 MWR Labor Day Extravaganza and Three Day Rodeo scheduled to kick off Aug. 29-Sept. 1. The weekend begins with a three-day professional rodeo at the Riding Stables Arena beginning at 8 p.m. each night. Rodeo admission is \$2.50 per night or \$5 for a three-day pass. Nightly unit competitions will feature active-duty Kirtlanders as well as professional cowboys. There will be entertainment and an extensive variety of activities on Labor Day from 11 a.m. to 7 p.m. at the East Parade Grounds. Rodeo and Labor Day tickets can be purchased at the Enlisted Club, Officers' Clubs, and the Que Pasa Recreation Center. For further information, call the Que Pasa Recreation Center at 4-5420.

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It works. The Albuquerque Crime Stoppers program has inspired hundreds of similar programs across the country. In Albuquerque alone, 3000 crimes have



SANDIA'S NUTRITION EXPERT, Susan Harris (3330, left), was guest speaker at a Women's Program luncheon a couple of weeks ago at the Coronado Club. Here, Women's Program coordinator Margaret Harvey (3510), who introduced Susan to attendees, assists in getting the viewgraphs ready to go. Here are a couple of "Susanisms" to keep in mind: (1) if you hear something sensational about nutrition, it's probably not true (and vice versa . . . if it's true, it's probably not sensational), and (2) more harm is done by too much good food than by a little bad food.

been solved, \$6 million in stolen property and narcotics have been recovered, 346 defendants have been tried, and 342 defendants have been convicted through June 1986. A three-hour telethon has been scheduled to raise money to be used to bolster the Crime Stoppers reward fund and to publicize Crime Stoppers' method of operation, accomplishments, and need in the city. The locally sponsored telethon begins at 7 p.m. on Aug. 23 on Channel 7. A 30-phone telephone bank will be manned by notable Albuquerqueans including Mayor Ken Schultz, Chief of Police Sam Baca, UNM football coach Joe Lee Dunn, Larry Ahrens and Mike Maloney from KOB, and many others. Pledges can be made by calling 881-4111 or 1-800-342-2020. Jim Altwies (3432) is chairman of the Albq. Crime Stoppers Board of Directors. Byron Gardner (3435) is a member of the board.

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Stuart Barth (3426), a sergeant in the Army National Guard, and George Treadwell (5261), a general in the Army National Guard, are two Sandians involved in the annual Muscular Dystrophy Association/Jerry Lewis Labor Day Telethon. Sandians who are members of the Guard or Reserve are invited to join them at the phone banks in the Hilton Hotel on Labor Day from 6-10 a.m. Stuart is the telethon coordinator for all active and reserve members of the Armed Forces in the Albuquerque area. If you can help out, give him a call at 4-8556 after 4:30 p.m.

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The local chapter of SOLE (the Society of Logistics Engineers, a group of professionals in logistics technology, management, and education) will hold its monthly general membership meeting at 11:30 a.m. Aug. 26 at the Coronado Club.

Guest speaker for the meeting will be Ray Velarde, Chief of the Material Management Branch,

Nuclear Material Division of Field Command Defense Nuclear Agency (FCDNA). He will speak on "Field Command's Role in the Acquisition and Management of Nuclear Weapons Material."

SOLE is seeking new members, and the public is invited. Lunch will be pay-as-you-go at the cafeteria line. For reservations, contact Mike Parks (HQ/AF/OSP) at 6-5671.

## Sandia Consultant Wins La Luz Trail Run

Kate Washburn, who teaches weight control for Medical's TLC (Total Life Concept) Program, apparently practices what she preaches.

Although she had never set foot on La Luz Trail, she set a new women's record of 1:28:29 for Aug. 3's La Luz race. Kate took the lead at the 2-mile mark and said she felt great throughout the whole uphill climb.

"When I crossed the finish line, I felt elated, really excited," Kate recalls.

She usually runs 45 miles a week along the North Valley ditches with her training partner, a golden retriever named Sunshine. But she is currently training for the Duke City Marathon, so she's doing 60 to 70 miles a week. Kate has been a runner for seven years and has competed in two New York City Marathons.

Kate moved here five months ago from northern New Jersey where she was head Exercise Physiologist for AT&T Communications and worked with AT&T's TLC Program.

## Fun & Games

**Biking** — Take the family and tour the Turquoise Trail the two-wheeled way. The Chamber Orchestra of Albuquerque Bicycle Tour is set to roll Sept. 21 at 8 a.m. from the Mountain View Inn (Tramway & Central) to Madrid and back. Take the whole tour or just a portion. The emphasis is on fun. There will be sag wagons for riders needing assistance, including medical. Starting tables will be open at 7 a.m. Those registering by Sept. 2 will receive a T-shirt and become eligible for prizes contributed by Albuquerque merchants. The prize winners will be selected and announced at the starting tables the morning of the ride. Three rest stops will be set up along the route. Fruit, water, and other refreshments will be available. For safety, hard-shell helmets are encouraged and radios with earphones are discouraged. Registration fee is \$10. Registration forms are available in the LAB NEWS office (Bldg. 814).

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**Golf** — SWGA ladies went to the wilds of Cochiti Lake Golf Course on July 19. Low net winners were: Flight A: Jennie Mirabal; second was Ree Gerchow (122). Debbie Tricoglou (7485) had fewest putts.



SHE'D NEVER run in a mountain climb; she'd never seen La Luz Trail. But Kate Washburn (a consultant to Medical's TLC program) not only won the race but set a new women's record.



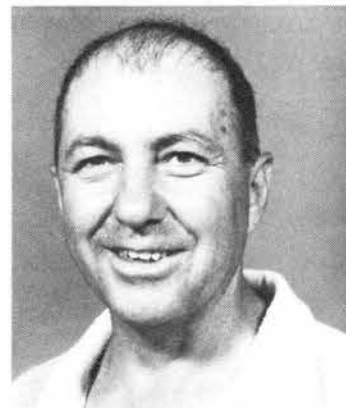
# MILEPOSTS

## LAB NEWS

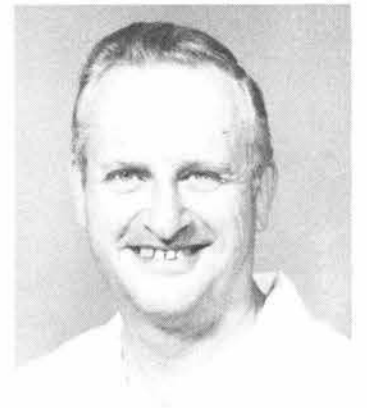
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Joe Lente (7474) 10



Charles Miller (3426) 15



Don Gould (5218) 25



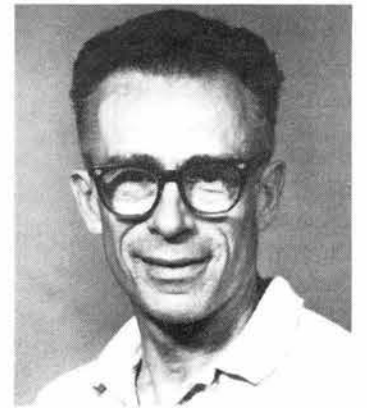
Tom Cutchen (2560)



Lois Wade (3544) 25



Bob Evans (5127) 35



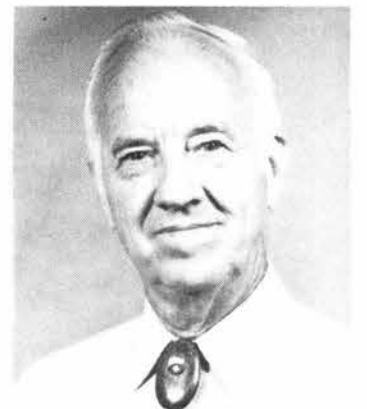
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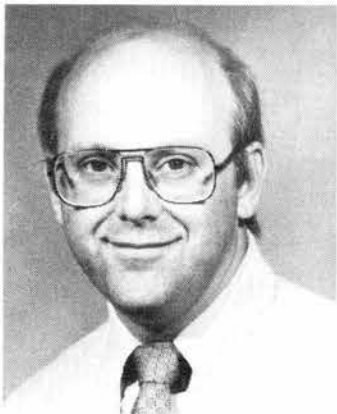
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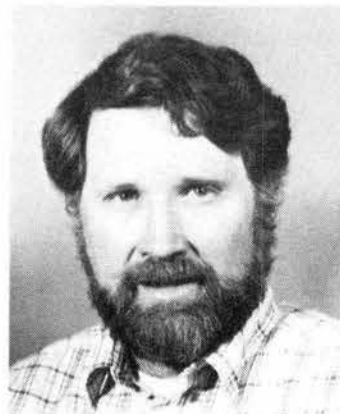
Fred Stixrud (324) 30



Bob Summers (7252) 35



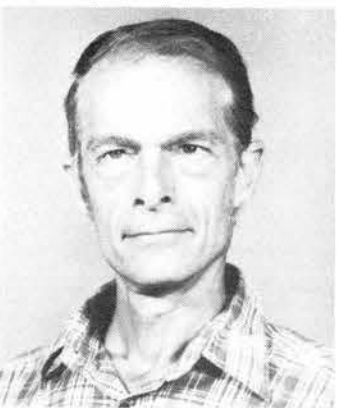
Steve Roehrig (1611) 10



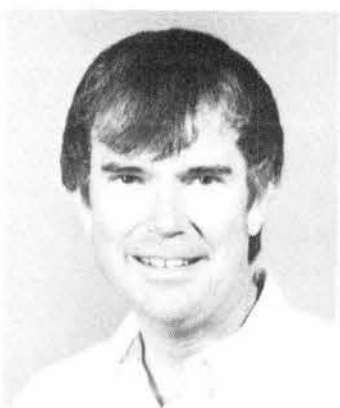
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Sharon Fletcher (2813) 10



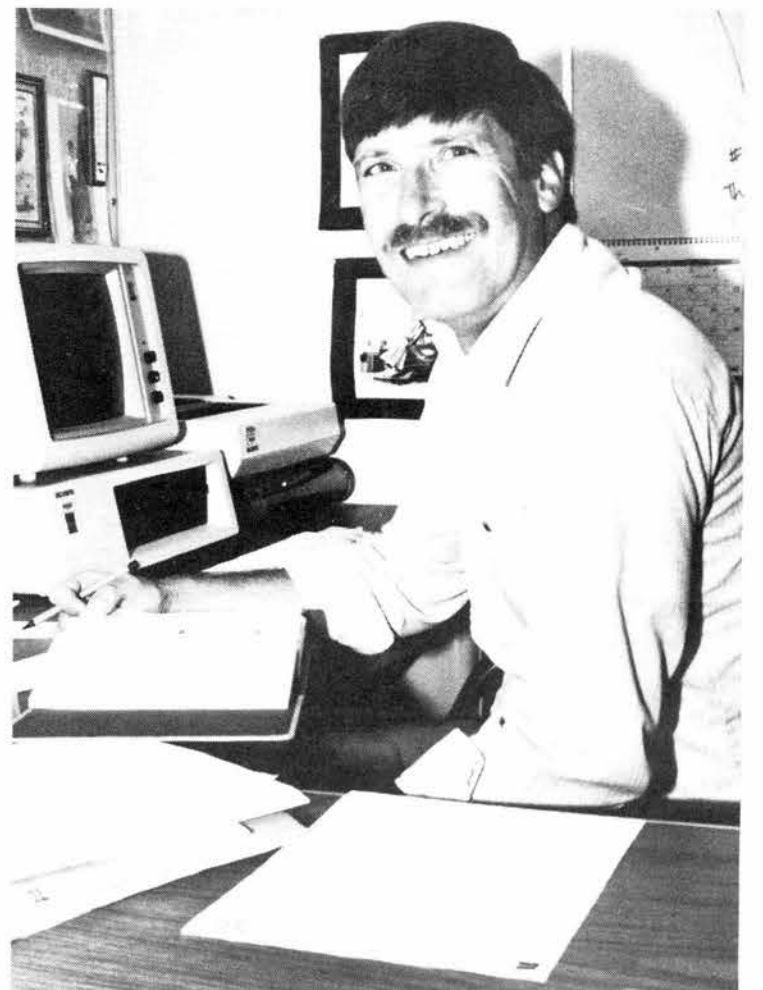
Tom McConnell (342) 25



Steve Lambert (6331) 10



Bob Dawirs (312) 35

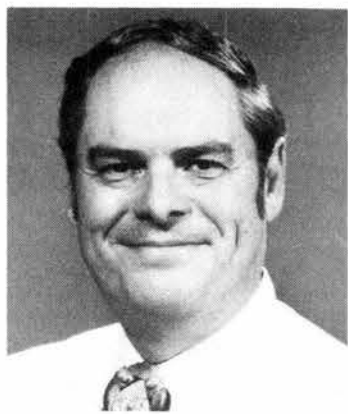


Ralph Clark (8173) 20





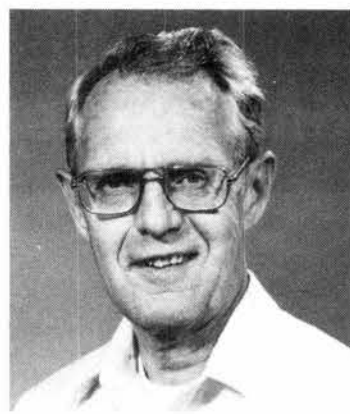
Larry McConahy (5251) 20



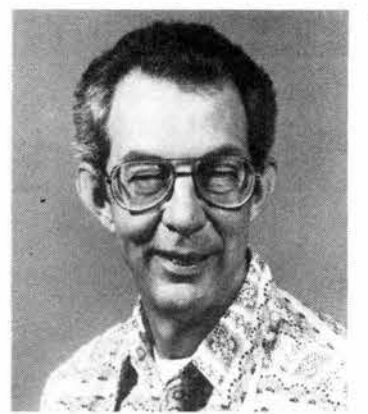
George Wright, Jr.(1652) 25



Dan Ross (8186) 20



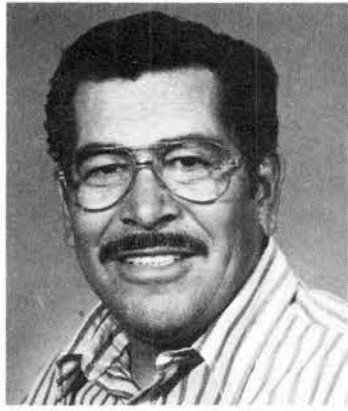
Clayton Erickson (5215) 35



Dick McKnight (5252) 30



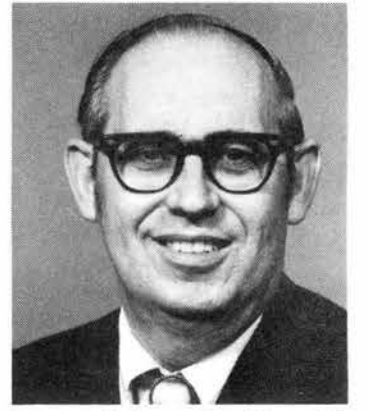
Frank Gonzalez (6454) 20



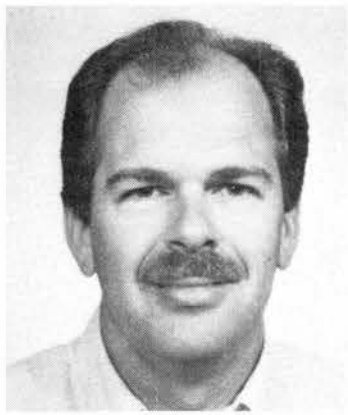
Richard Chavez (7475) 30



Jerry Cashen (8433) 20



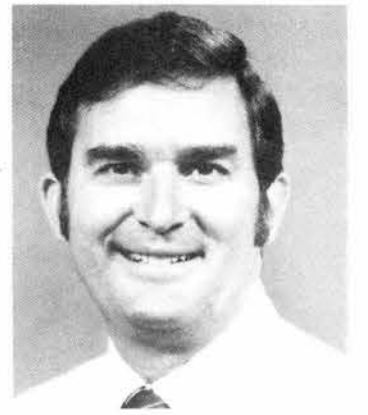
George Kolesar (5313) 25



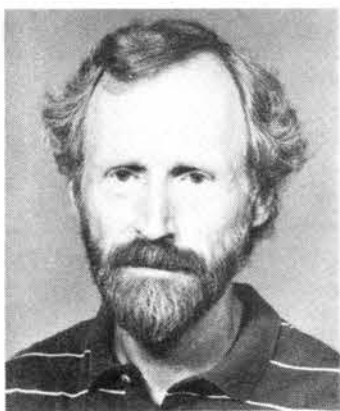
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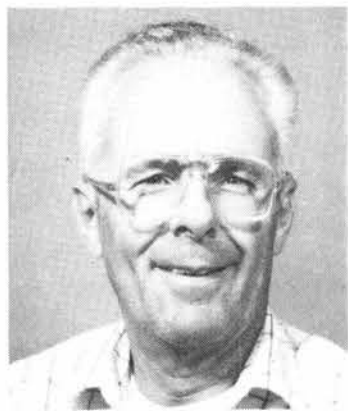
Rosanna Latham (3153) 20



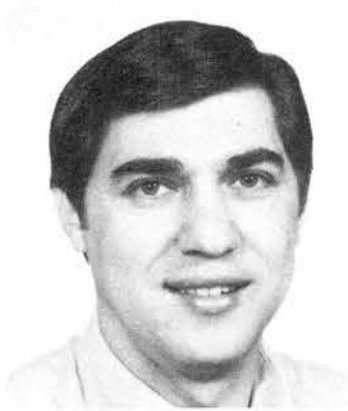
Larry Grube (2851) 20



Joe Maloney (3142) 10



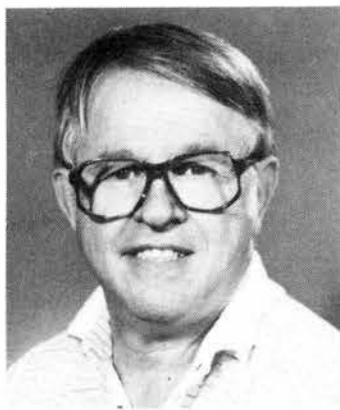
Dorsey Bishop (5123) 25



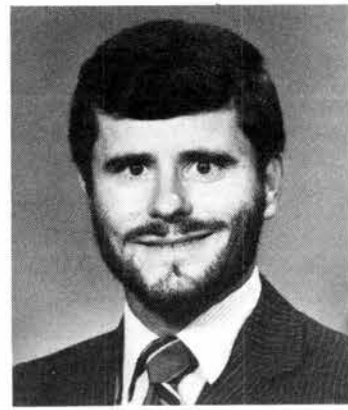
Karl Wally (8445) 10



Tex Ritterbush (133) 25



Harry Pike (7243) 30



Dan Brewer (3531) 15



Dick Ballard (8022) 35



# Join KAFB's Labor Day Weekend Bash — See Take Note, Page Eight

CLASSIFIED AD

CLASSIFIED AD

CLASSIFIED AD

CLASSIFIED AD

Deadline: Friday noon before week of publication unless changed by holiday. Mail to Div. 3162.

## Ad Rules

1. Limit 20 words, including last name and home phone.
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8 1/2 by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same ad.
9. No "For Rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.

## MISCELLANEOUS

KING-SIZE WATERBED, padded sideboards, black vinyl, \$85; Olympus OM10 camera, F1.8 lens, \$125; new 12V Sears winch, 1500-lb. capacity, \$100. Revels, 344-3033.

ELECTRONIC PRINTER, Brother, portable, Model EP41, battery or AC, calculator function, 15-character display, \$100. Carrick, 266-0191.

TOOL CHESTS, cabinets, work benches; mechanics' and machinists' style. Norris, 296-6679 evenings.

TWO '55 Ford bodies, \$500 both. Padilla, 873-1480 or 877-0168.

DINING SET, distressed maple, 6 captain's chairs, best offer over \$300. Hill, 294-7534 or 299-5272.

COMPAQ DESKPRO computer, 640K, amber monitor, Okidata 193 printer, software, miscellaneous accessories. Rees, 822-8523.

115 VAC POWER PLANT, old Wards 350 watt electric start unit w/battery charger and battery, \$75. Meikle, 299-4640.

CERAMIC MOLDS, more than 325 items in lot, \$1100. Demmel, 299-5639.

CHILD'S DESK, \$30; couch, \$50; living room chair, ottoman, \$100; refrigerator, \$100. Falacy, 293-2517.

SOFA AND MATCHING CHAIR, French provincial style, \$100. Garcia, 298-2898 after 5.

TIRE, F78-15, tubeless, 4-ply, polyester, WSW and 5-hole Chev. wheel, complete, \$20. O'Bryant, 268-9049.

SOFA AND CHAIR, light green, \$100/pair. Boyer, 298-3893 after 5.

CLOTHESLINE, approx. 6 ft. square, \$15; full-size whiskey barrels, \$25/ea. Mozley, 884-3453 leave message.

HEWLETT-PACKARD COMPUTER, standard 85B w/tape drive, printer, and monitor, includes carrying case, software, and memory, best offer. Bernal, 869-2305.

GAS RANGE, gold, \$85; bathroom cabinet, vanity, single-handle faucet, \$50. Orth, 292-6174 after 5.

MAHOGANY OCCASIONAL TABLE, new hardwood table lamps, antique Atwater-Kent highboy radio (circa 1930), best offer. Hebron, 883-0738.

HOT POINT REFRIGERATOR, \$60; 32" solid-core office door, \$15. Presser, 292-7618.

JERRY CAN, 5-gal. red steel gasoline container w/2 spouts, lockable attaching bracket, \$12. Schkade, 292-5126.

LITTON MICROWAVE OVEN, full-size, 2 yrs. old, adjustable power levels, \$160. Paul, 299-6387.

C-64 SOFTWARE, Solo Flight by Micro-Propose, \$15; GEOs with extra font disk, \$40. Allen, 296-6453.

HAIRCURLER SET, never used, electric, compact, Sears, 20 curlers, cost \$16, sell for \$10. Barr, 821-5870.

GARDEN TRACTOR, 16 HP Roper, 4 attachments: blade, plow, furrow,

disks, \$1500. Chavez, 877-9304.

SAVIN 755 COPIER, 2 paper trays (8-1/2 x 11 & 8-1/2 x 14), toner & dispersant recently added, \$700. Vernon, 892-6571 after 5.

KAYAK, Perception Eclipse w/paddle and sprayskirt, \$350. Dudley, 883-8614.

BUILT-IN OVEN, 36", gas, avocado, never used, \$200 OBO. Mozley, 299-4204.

LAWN MOWER, Briggs & Stratton, \$20; lavatory, \$8. Padilla, 877-2116.

SLIDING PATIO DOOR, glass; 12 cu. ft. refrigerator, avocado; camper shell for Datsun pickup, make offer. Blair, 294-0824 evenings.

TWIN-SIZE MATTRESS, box spring, frame, and headboard, \$125; dry bar w/stereo 8-track and record player, \$90. Filusch, 299-5932.

GOLF CLUBS, men's size, 2-PW irons; 1, 3, and 4 woods, \$75. Harrison, 292-6856 evenings.

ZIGZAG SEWING MACHINE, Sear's Kenmore, convertible freearm, Model 1641, 6 utility and 6 stretch stitches, attachments, carrying case, \$100. Janney, 881-4622.

CAMPER, 9-1/2 ft. cabover, self-contained, hydraulic jacks, tie downs, window boot, dampers, one owner. O'Neal, 821-0566.

DISHES, Noritake stoneware, service for 8 plus 5 serving pieces, \$80. Fasano, 281-9629.

LAWN MOWER, electric, Sears, 18" twin-blade, \$95; electric trimmer, \$10. Kwak, 294-2524.

CONSOLE COLOR TV, Curtis Mathes, 25"; 4 tires and wheels for Toyota pickup, 14". Baca, 881-4184.

RELOADING PRESS, powder balance, and 30-06, .308, and 7mm dies. Bailey, 294-4218.

LC SMITH 16-gauge, double barrel, Hunter One trigger, \$550; Marlin Mod 336, 30-30 w/Buehler mount and scope, \$195. Karnes, 884-8674.

FIREPLACE, large, porcelain-coated metal; 8 ft. of pipe, grate, screen, and cover, best offer. Marshall, 281-5821.

LOVESEAT w/3 pillows, wheat color, \$250; TV, B&W, 12", \$20; charcoal grill, \$10. Mozey, 822-0296.

AUTO ROOFTOP CARGO CARRIER, collapsible, heavy-duty, fabric-backed vinyl cover, zippered opening, metal frame, 36" x 48" x 15", \$35. Mills, 299-4752.

WOOD DINETTE SET, walnut finish, 4 chairs, center leaf, 2 yrs. old, \$150. Martin, 822-8260.

GE FREEZER, \$125 OBO; GE dryer, \$75 OBO. Jones, 298-2067.

TROMBONE, \$100; Saucony men's track shoes, size 12, worn once, \$20; 4-way home stereo speakers, \$130/pr.; queen bedspread, \$15. Caskey, 296-6372.

WHEEL COVERS, 4 ea., 15", wire, locking, theft-proof w/2 keys. Graff, 268-5291.

BUILT-IN APPLIANCES, GE, electric, coffee color; dishwasher, \$100; double oven, \$100; countertop range/hood, \$100. Clark, 266-5674.

WATER HEATER, 20-gal., natural gas, new, in crate, \$50. Guttman, 888-5114.

MOTOR MOUNT for canoe, \$15; 17.5 cu. ft. frostless freezer, \$100. Johnston, 294-4574.

STEREO AM/FM RECORD cassette player, \$40; kitchen sink, white, cast iron; 60 sq. ft. of formica, marble pattern, new. Gendreau, 268-3436.

BARRECRRAFTERS SR55 ski rack (attaches to roof rack), used once, \$76.50 new, sell for \$60. Henderson, 884-8309.

GO-CART, \$400; Kenmore gas dryer, \$85; woman's full-size, 3-spd. bike, \$50; size 8-10 square dance dresses. Patton, 298-2364.

SOFA, bedroom chair, Hoover vacuum cleaner. Joseph, 268-5414.

YAMAHA FLUTE, \$170; Sears 16 cu. ft. refrigerator w/icemaker, \$150. Caskey, 294-3218.

QUEEN-SIZE BED, \$50; Kodak slide projector, Model 760H, w/screen, \$100; Polaroid One-Step camera w/flash & case, \$25. Moulton, 293-0373.

DROP LEAF DINING TABLE, 46" x 48" oval, mahogany, vase-and-ring turned legs, \$195. Dalphin, 265-4029.

PUMP ORGAN, oak, restored; oak sideboard, large; drapes, 150" x 84", rust beige. Pike, 292-5080.

REDWOOD PICNIC TABLE and benches, \$30; microwave, \$195. Vigil, 821-8059.

GIRL'S 20" BIKE, \$30; girl's roller skates, size 6; child's roller skates, size 13; receiver w/drop hitch for Blazer, \$55. Aragon, 881-4795.

KENMORE FREEZER, \$300; hot water baseboard heaters, self-contained, \$60/ea.; washer, dryer, refrigerator, \$500. Williams, 1-864-3617.

DOUBLE BED, Ethan Allen, solid cherry, Simmons queen-size mattress and box spring, queen-size converter bed rails, make offer. Erickson, 299-6824.

PIANO, baby grand, Gulbransen, asking appraised value, \$3995. Turner, 296-7839 between 2 and 4 p.m.

CHINA, Mikasa, Ramblin' Rose pattern, new, service for 8, \$75. Stephens, 821-7960.

THREE CHESTS OF DRAWERS, doctor's office swivel chair, IBM Selectric typewriter, deacon's bench, glass-shelved display counter. Bennett, 293-1217.

COCKTAIL TABLE, 3/4" glass top, wrought iron base, \$100. Thompson, 294-4377.

WOOD PLANER, Parks, 4 x 12 capacity, 220V, 3 HP, extra set of blades, \$600. Smith, 292-8633 after 6.

WINDSURFER, used one season, yellow and black sail, standard and high wind daggerboards, \$425. Lagasse, 293-0385.

TWO WHEELS, fit Porsche 924, one w/radial on alloy; four wheels and tires for Jeep Wagoneer. Bayless, 281-9197.

YAMAHA ELECTRONIC KEYBOARD, 12 rhythms, 12 voices, stereo, standard size, \$125. Biedscheid, 294-6564.

TWO BEDROOM SETS, Stanley, 6-drawer dresser w/mirror, twin headboard, night stand, yellow white, \$350 ea. Thompson, 294-4377.

SEARS 12" B&W TV, \$25; single-rail motorcycle trailer, 1500-lb. capacity, \$250. Greer, 831-0019.

HONDA CIVIC PARTS, '74/'75, doors, hatch, windows, engine, steering wheel column, dash, seats, more. Zirzow, 294-7296.

MINK COAT, natural lunarine, rarely used, in storage, shown by appointment, appraised at \$5000, asking \$2000. Longcope, 292-6388.

ROCKING CHAIR, Old American, solid oak, \$100. Dunlap, 884-0232.

## TRANSPORTATION

'76 MINI-MOTORHOME, Dodge 360 engine, 19 ft., low mileage, \$10,000. Revels, 344-3033.

'81 SUZUKI GS450T, 10K miles, garaged, records, extras, new tires, chain, and battery, \$1000 firm. Hueter, 299-7263.

'82 YAMAHA VIRAGO 920, black, tinted windshield, \$1400. Padilla, 873-1480 or 877-0168.

'68 LINCOLN CONTINENTAL, leather interior, suicide doors, rebuilt engine and transmission, \$1700 OBO. Hill, 292-1438.

'75 DATSUN PICKUP, matching custom camper shell, AC, \$1950. Falacy, 293-2517.

'76 BRONCO, 302, PB, stereo, new brakes battery, 83K miles, \$3400. Gibbs, 281-3639.

'72 COUGAR, brown, 2-dr., V8, AT, PB, PS, AC, heater, AM radio, \$1200. Boyer, 298-3893 after 5.

'68 VW BEETLE, rebuilt engine, new upholstery and tires, 95K miles, \$1200 OBO. Firstenberg, 255-0268.

SELF-CONTAINED CAMPER, Gustin Custom Deluxe, on '72 Chev. 350, AT, nylon tires (600 x 15, 6-ply), one owner. Nelson, 865-9516.

'85 TOYOTA 1-TON PICKUP, 55K miles, new paint and Michelin radial tires, AM FM cassette, trailer-pulling package, \$4995 firm. Mayer, 299-8524.

'83 YAMAHA VENTURE, 1200cc, touring motorcycle, one owner, \$3000. Martin, 299-6768.

'79 ALPHA ROMEO SPIDER convertible, 5-spd., 45K miles, AM FM cassette stereo, \$6700. Gomez, 291-

9322.

'82 TOYOTA LONG BED PICKUP, 5-spd., AM FM cassette stereo, AC, 28K miles, \$4300. Vernon, 892-6571 after 5.

YAMAHA YZ-80 DIRT BIKE, yellow, \$325. Romero, 865-5681 after 5:30.

'80 VW RABBIT DIESEL, LS, AM FM cassette, AC, 25-gal. capacity, rebuilt, 10K miles. Goodnow, 293-8611.

'83 BUICK CENTURY CUSTOM, 22K miles, V6, PS, PB, AC, AT, tilt, cruise, AM FM stereo, 2-yr. warranty, \$6000. Smith, 294-3413.

'74 CHEV. MONTE CARLO, radials, PS, PB, PW, tilt wheel, Blaupunkt, AM FM cassette stereo, \$1200. Harrison, 292-6856 evenings.

'82 MOBILE TRAVELER minimotor-home, Ford chassis, 20K miles. Hauser, 821-0565.

'83 YAMAHA IT 175 ENDURO, purchased 5/85, \$600 or trade for utility trailer and cash. Zarick, 836-5703 evenings.

'82 SUZUKI GS1100E, new tires, extras, under book, \$2000 OBO. Szklarz, 294-2505.

'78 HONDAMATIC CB400T, blue white, windjammer, saddle bags, chrome bag rack and crash bars, helmet, new tires and battery, \$1000. Martinez, 821-6096.

BOY'S BMX BIKE, 24", blue and chrome, hand brake, \$60; 20" convertible boy's girl's bike. Zoss, 822-0816.

'74 DATSUN 610, rebuilt engine, AM FM cassette, AT, AC, \$1350. Schofield, 292-7220.

'83 SUBARU STATION WAGON, 4-wheel drive, 4-spd., PS, PB, ski rack, needs some body work. Liguori, 256-3613.

'76 AUDI 100-LS, AC, 88K miles, \$2000 OBO. Brice, 345-4827.

'81 TOYOTA CELICA GT, AT, overdrive, PS, PB, AM FM, Chavez, 881-3664.

'86 ISUZU SPACECAB 4X4 pickup, auto-locking hubs, 5.50 warranty, 6K miles, 2.3L engine, AM FM cassette stereo radio, 5-spd. Ferguson, 281-9864.

'81 YAMAHA SECA 750, low mileage. Wenk, 292-5961.

'77 TOYOTA CORONA, AC, 5-spd., PB, new clutch, tires, brakes, more, \$2000 OBO. Eley, 242-8530.

'77 HONDA ACCORD HATCHBACK, manual transmission, AM FM cassette, one owner. Maish, 898-8027.

'77 CHEVETTE, 4-spd., 79K miles, \$750. Allen, 823-2947.

ALL-TERRAIN BICYCLE, Peugeot Canyon Express, 23" frame, \$385. Mogford, 898-1416.

'67 COUGAR XR-7, chrome engine, \$2500 firm. Clark, 266-5674.

'78 GL1000 with side car, make offer. Johnston, 294-4574.

BICYCLE, lady's, Takara, 10-spd., 19" frame, 26" wheels, \$80. Gendreau, 268-3436.

BICYCLE, Nishiki, men's, 21", 10-spd., \$75. Dunlap, 884-0232.

BICYCLES: boy's - Schwinn Collegiate, 20", 5-spd., \$60; 22", boy's, 10-spd., Continental, \$45; Henderson 884-8309.

'78 MUSTANG II, 3-dr., AT, PS, PB, AC, new tires, \$1300. Newell, 299-3236.

'73 JEEP CJ5, V8, needs work, \$1200 OBO; ski boat, Shallow V, \$3500 OBO. Lopez, 884-8461 after 5 or leave message.

BICYCLE, Sears, 10 spd., \$55. McDonald, 298-0347.

BIKE, girl's, 24", 3-spd., \$35. Vigil, 821-8059 after 5.

'81 TOYOTA CRESSIDA, AC, AT OD, cruise control, sunroof, AM FM cassette, trailer hitch, more, under Bluebook at \$6600. Lawrence, 296-3058.

'75 VW CAMPER BUS, sleeps 4, electric hookup, electric pump sink, icebox, storage, \$2695 OBO. Eatough, 822-1297.

BICYCLE, child's, \$20. Caskey, 294-3218.

'84 OLDS. FIRENZA station wagon, 4-spd., FWD, roof rack, 2.0L, 4-cyl. Ziegler, 821-0731.

BICYCLE, Peugeot PX-10E, 531 sport touring frame, Phil Wood hubs, sealed crank, all updated components, \$300. Kovacic, 281-1754.

BOAT, '84 Sunray, 200 HP, OMC I/O, low

hours, extras, \$8000. Flynn, 299-4929.

'86 KAWASAKI NINJA 1000R, 4K miles, \$3800 OBO. Knutson, 888-1012.

'85 FORD RANGER, 2.3L, EFI, 5-spd. Bayless, 281-9197.

'75 HONDA CIVIC, 15K miles on rebuild, 30 mpg, \$1200 OBO. Zirzow, 294-7296.

'83 DATSUN PULSAR, low mileage, one owner, PS, PB, sunroof, \$4950. Miller, 822-0008 after 5 or weekends.

'80 TOYOTA TERCEL, one owner, 71K miles, \$1400; '78 Honda CVCC, low mileage, new paint, \$1000. Freshour, 256-9168 after 5.

'81 PLYMOUTH RELIANT SW, AC, PS, PB, AT, luggage rack, new battery, deluxe light package, 60K miles, \$3200. Miyoshi, 821-9118.

## REAL ESTATE

WINROCK VILLA CONDOMINIUM, 2-bdr., 1-bath, \$52,500, will consider lease purchase. Beckner, 296-1729.

MOBILE HOME, 14' x 68' w 2 additions, Cedar Crest park, fenced yard. Tafoya, 281-1454 after 4:30.

3-BDR., Heritage Hills area, 2 baths, large lot, large den, fireplace, 1760 sq. ft., located at 8141 Loma del Norte NE, Hall, 299-0009.

4-BDR., Academy Hills, Southwest style home, large kitchen, clerestory windows, stained glass, shaded yard, low \$120s. Barlow, 821-0832.

2.5 ACRES, Jemez Mtns., near San Pedro Parks, \$9500; .4 acres near Sandia Park, borders forest, \$25,000. Sanderlin, 298-7147.

4-BDR. HOME, 1900 sq. ft., Eubank/Spain area, 1-3/4 baths, LR, den, private backyard, fruit trees; wooded lot (almost 1 acre), near Cuba, \$5500. Mora, 821-6759.

3-BDR. HOME, 2000 sq. ft., solar sunroom, large garage, private backyard, assumable loan, Eubank/Constitution area. Caruthers, 296-5953.

BRICK HOME, 3-bdr., 1-3/4 baths, walled yard, fully landscaped. Garcia, 293-3937.

TOWNHOUSE, 1250 sq. ft., 3-bdr., 2 baths, FP, oversize lot, fully landscaped, covered patio, storage sheds, garage. Greer, 831-0019.

HOME in SE Albq., 900 sq. ft., 9.5% assumable mortgage, \$2000 down, \$42,000 total. Manning, 898-6084.

3-BDR. HOME, 2860 sq. ft., Sandia High School, Mossman, office den, RV pad, professionally landscaped, double garage. Mortensen, 822-1749.

MOBILE HOME on 1-3/4 acres, Barton area west of Edgewood, all utilities, several finance options. Morrow, 281-9607.

FAMILY HOME, brick, Wyoming Menaul area, 2000 sq. ft., 4-bdr., den FP, garage, solar, quiet street, more, available now, \$86,900. McVeety, 294-5568 or 299-5718.

## WANTED

HOUSEMATE, own room and bath, non-smoker, NE Heights, \$225 mo. plus 1/2 utilities. Levin, 299-0891.

LEADS ON BURGLARS—of items stolen two days before Mother's Day from home on Wellesley; mink furs, Sandia retirement gifts, silver RCA disk player w/disks, luggage, \$500 reward. Brown, PO Box 5564, Albq., NM 87185.

PARAKEET CAGE, 2 or 3 ft. tall, good condition. Carrillo, 292-7283.

FURNISHED HOUSE or apt. to rent, 1-2-bdr., for faculty couple, fall semester; '66-'69 VW Bug, running condition, reasonable. Baumgarten, 256-9606.

CHILD CARE: your home, Collet Park school district, 3 yr. old boy in afternoon, 8 yr. old boy after school; 7:15-8:30 before-school care, our home, Tramway Encantada, by dependable non-smoker, own transportation, \$20 wk. Kwak, 294-2524, after 6.

BABY BED, good condition. Brigham, 293-6914.



## Glitter of Las Vegas Right Here in Albq.

HERE'S YOUR CHANCE to experience all the glitter and glamour of Las Vegas without venturing out of Albuquerque! All the stops get pulled out tomorrow night, Aug. 16, at Las Vegas Revue Night. Start out with a very special buffet, served from 6-8 p.m., featuring baron of beef, Italian chicken, baked potatoes, broccoli Normandy, a full salad bar, and assorted desserts. Then it's dancing to the music of Solid Gold (contemporary, Latin jazz, and funky — whatever *that* is) from 8-12. The entertainment highlight of the evening is a high-energy floor show staged by the popular show band, Black Tie and Glitter, and some most talented dancers. The tab for this exciting evening, including the buffet, floor show, and Solid Gold dancing, is only \$6.95 — a far cry from what you'd pay for the same thing in Vegas. To get in on this extraordinary deal, give the Club office a call *today* at 265-6791 to make your reservation.

FULL MOON and empty arms — Not a chance if you come on out to the big full-moon patio party next Tuesday night, Aug. 19. First, your arms will be full of food from an a la carte buffet (served from 5-8) — food perfect for patio dining, such as BBQ beef sandwiches, hamburgers, hot dogs, a variety of salads, and NM chile beans. Next, your arms will be full of a dance partner, because the Old Cooters provide music from 7-10 for some dancing under the stars. If you haven't already done so, make your reservation right now for this beat-the-heat special.

SPEAKING OF FUN on the patio, there's a biggie planned for singles on Thursday night, Aug. 21, from 4:30-9 p.m. (The moon won't be full, but it'll be far from empty.) The bash begins right after work at 4:30. From then until 7, there's free swimming and free munchies, along with 50-cent beer to wash down the latter. Sounds Unlimited belts out the dancing music from 6-9. Crowds at Singles Night continue to grow and there's a very good reason: A bunch of nice people shows up every time. Come on out and get in the swim with some new friends!

THE FRIDAY NIGHT BUFFET next week (Aug. 22) offers fish and baron of beef, along with a full salad bar, for \$6.95. Afterward, that ever-popular group of Poor Boys from Isleta plays its specialty — that good old country-western stuff — for dancing from 8 to midnight. Reserve your space by calling the Club office.

A WEEK FROM SUNDAY, Aug. 24, is Coronado Club Windsurfing Day at Cochiti Lake. Leave the home turf and sail on the away surf for an all-day cost of \$15. Interested wave-catchers should call the Recreation Office, 844-8486, for more info.

SUMMER'S WINDING DOWN, and kids know what *that* means; It's back-to-school time, right? To help soften the blow, the C-Club invites all school-age kids to a back-to-school dance and swim party from 7-10 p.m. on Wednesday, Aug. 27. Cost for all this fun — and munchies too — is only \$1. Please note: Adults are not allowed at this one (how about *them* apples, party goers?), except for chaperones provided by the Club. Dance to the music of Sounds Unlimited as you celebrate (?) the end of summer.

ROADRUNNER RV CLUB members keep on spinning those wheels this month as they head on out to the El Vado Camping Resort (near El Vado Lake) Aug. 26-28. No roughing it this time, as there are full hookups and a swimming pool at the resort. (Back to nature, huh?) Additional info is available from wagonmasters Duane Laymon, 822-1749; Tom Brooks, 344-5855; or Bill Minser, 299-1364.

NOW LISTEN UP, all you fans of Don Lesman and that big-band sound! Don and the group will be back at the Club to provide golden-oldie dancing on

Friday night, Aug. 29, from 8-11:30 p.m. Before the dancing gets started, you can take advantage of the two-for-one dinner special, featuring your choice of prime rib or halibut — two dinners for \$14.95. But don't call Pennsylvania 6-5000 (a Lesman specialty) to make your dinner reservation; call 265-6791.

JUMP ON THE BANDWAGON (yes, the political one) — C-Club board member elections are scheduled for September. You probably have an idea or two on nominees who could carry out the awesome responsibilities that board members take on. It's easy to place names in nomination; just give Mark Kiefer a call at 4-0855.

ON THE ROAD AGAIN, goin' places that you've never been . . . that's what's in store for you when you sign up for a C-Club super sojourn or two. Here's the wish list:

*High Country* — It's falltime, not springtime, in the Rockies on this dream trip for photographers, set for Sept. 27-30. The \$145/person tab includes round-trip charter bus fare and refreshments along the way, lodging at Telluride and Pagosa Springs, continental breakfasts and one lunch, dinner at Rancho de Chimayo, and all taxes and tips. There'll be all kinds of stops for picture-taking — a good thing, too, because those golden aspens should be at their colorful peak about that time. And by the way — if you've never traveled the "Million Dollar Highway," you're in for a thrill!

*Middle-of-the-Country* — Another fall foliage spectacular is yours on this getaway to the Ozarks from Oct. 18-24. Included are all sorts of attractions in three states, including museums specializing in western art and music, outdoor shows (the Great Passion Play and Shepherd of the Hills drama for starters), and the Fall National Crafts Festival. Marvel Cave, beneath Silver Dollar City, Mo., is for the adventurers in the crowd. Besides the above, other items included in the bargain price of \$637/person are round-trip air fare to Tulsa, two special dinners, hillbilly and popular music shows, and six nights' lodging.

*Way-Out Country* — Where else but southern California? And what a time to be there — Dec. 29-Jan. 2. This is a great way for the whole family to top off the Christmas holiday season. Planned are an all-day visit to Disneyland (and the Disneyland New Year's Eve party), a Catalina Island cruise, a tour of Universal Studios, a chance to take in the Rose Bowl Parade (reserved seats for that extravaganza), a trip to Victory Park (to inspect floats after the parade), a day of sightseeing (including a stop at the Queen Mary), and dinner at Castagnola's Lobster House. Included in the \$398/person (double occupancy) price are round-trip air fare to LA, four nights' lodging at the new Desert Inn Hotel in Anaheim, charter bus for local transportation, admissions to all of the above-mentioned attractions, flight insurance, etc. The more, the merrier — and the cost is less for more; price for quad occupancy is \$348/person.

*Out-of-the-Country* — We've learned a little more from travel honcho Marv Plugge about that super trip to Cozumel in November. Dates have been set — Nov. 11-18 — so circle them on your calendar right now! During your stay, you're headquartered at the beautiful Club Cozumel Caribe on the tropical island of Cozumel off the Yucatan coast of Mexico. As you may know, Cozumel is 33 miles long and 9 miles wide, and it's almost completely encircled by white sandy beaches. The \$745/person tab includes round-trip air fare; all meals — breakfast, lunch, and dinner; unlimited wine, beer, and cocktails; nightly entertainment, beach parties, and fiestas; tennis, volleyball, and shuffleboard; windsurfing, snorkeling, bottom fishing, scuba diving, and moonlit cruises. (Gosh — when do you have time to sit on the beach under a palm tree?) Reservation deadline is Sept. 26.

*Canyon Country* — Sheer red cliffs and golden cottonwoods — that's the way to describe Canyon de Chelly in the fall. And the scenery is all yours when you sign up for this weekender, set for Oct. 25-26. For \$98/person you get charter bus fare, a night at the Thunderbird Lodge, a jeep tour of both canyons that lets you explore Anasazi ruins, a picnic lunch at Wheatfields Lake, and a stop at the historical Hubbel Trading Post.



THIS BEVY OF BEAUTIES stars in the floor show tomorrow night at the C-Club during Las Vegas Revue Night. Make your reservation today!